PERIODICAL ROOM
GENERAL LIBRARY
UNIV. OF MICH.
OCT 19 1949

The JOURNAL of GEOGRAPHY

VOLUME XLVIII OCTOBER, 1949 NUMBER 7

In This Issue

The Place of Geography in a General Education Program . . . *George C. Kimber*

Geography: Seen from the Office of Education . . . . . *Otis W. Freeman*

Puerto Rico—Island of Extremes . . . . . *William N. Harris*

Utilization of Field Areas in Teaching Conservation at the University of Wisconsin . . . . . *Arch C. Gerlach*

A Journey Thru Lapland in Finland and Norway . . . . . *Isabel Foye*

Soil Destruction or Tree Crops in the Tropical Forests . . . . . *J. Russell Smith*

The National Council at Work . . . .

Geographical Publications . . . . . .

Published by A. J. NYSTROM & CO., for THE NATIONAL COUNCIL OF GEOGRAPHY TEACHERS
GEORGE J. MILLER, *Editor*

ELEMENTS OF GEOGRAPHY. Physical and Cultural. New 3rd edition

By VERNOR C. FINCH and GLENN T. TREWARTHA, University of Wisconsin. *McGraw-Hill Series in Geography.* 711 pages, $6.00

As before, the dominant feature of this widely known and widely used text is the fact that it regards physical geography as an analysis of the resource base for nations and peoples. While physical processes are by no means neglected they are subordinated to the emphasis laid upon the forms of the physical elements, in order to fit into the authors' conception of physical geography as the science which treats of the potentialities of the physical earth for human use. In the new edition many changes have been made to simplify and clarify the treatment and much new material has been added.

PHYSICAL ELEMENTS OF GEOGRAPHY. New 3rd edition

By VERNOR C. FINCH and GLENN T. TREWARTHA. 557 pages, $5.50

This volume comprises Part I of the authors' *Elements of Geography* described above. This volume is primarily concerned with the physical aspects of the subject.

ESSENTIALS OF GEOGRAPHY

By OTIS W. FREEMAN, Eastern Washington College of Education, and H. F. RAUP, Kent State University. *McGraw-Hill Series in Geography.* 470 pages, $5.00

Intended both as an introduction to geography for students who expect to continue work in the field, and as a survey of the subject for those who will limit their instruction to one course. The book describes the principal physical aspects of the earth as a planet, and the varied environments which it provides for the habitat of man. Various human economies and their relationships to the principal natural environments comprise a large share of the book. In addition, the cultural aspects of some phases of human existence have been included, such as political geographical settlements, urban life, etc.

GENERAL CARTOGRAPHY

By ERWIN RAISZ, Harvard University. *McGraw-Hill Series in Geography.* Second edition. 354 pages, $6.00

This college text and reference book has been thoroughly revised to incorporate changes in the field resulting from the Second World War. The present edition is larger than the previous edition, and contains many more illustrations. Map-making is presented in understandable terms with a minimum of mathematics, and there are new chapters on aerial photography and mapping, photographic map interpretation, and photographic surveying methods.

Send for copies on approval

McGRAW-HILL BOOK COMPANY, INC.

330 WEST 42ND STREET, NEW YORK 18, N. Y.

Mention the JOURNAL—It Assures Service

The JOURNAL *of* GEOGRAPHY

CONTENTS FOR OCTOBER, 1949

The Place of Geography in a General Education Program. By George C. Kimber 265

Dr. Kimber is Dean of Liberal Arts and General Education in Sacramento Junior College, Sacramento, California. He also teaches geography.

Geography: Seen from the Office of Education. By Otis W. Freeman 276

Dr. Freeman is head of the Department of Geography, Eastern Washington College of Education. At the time of preparation of this manuscript he was acting as Specialist for Geography in Higher Education in the United States Bureau of Education. During the past year he taught at the University of Hawaii.

Puerto Rico—Island of Extremes. By William N. Harris 283

Mr. Harris is an Assistant Professor of Geography at the University of Toledo. He has recently been working toward his doctorate at the University of Ohio.

Utilization of Field Areas in Teaching Conservation at the University of Wisconsin. By Arch C. Gerlach 294

Dr. Gerlach is an Associate Professor of Geography at the University of Wisconsin, Vice President of the Wisconsin Council of Geography Teachers and a frequent contributor to educational literature.

A Journey Thru Lapland in Finland and Norway. By Isabel Foye 298

Miss Foye teaches geography in Battles School, Girard, Pennsylvania. Traveling has been her hobby for several years. She returned to Finland for her second visit during the past summer. In April, 1949 she contributed to the *Scholastic Teacher*.

Soil Destruction or Tree Crops in the Tropical Forests. By J. Russell Smith 303

Dr. Smith is Emeritus Professor of Geography, Columbia University. His many publications in the field of elementary and college level geography make him well-known to practically every teacher in the country.

The National Council at Work 306

Geographical Publications 305, 308

Contents of the JOURNAL are indexed regularly in the *Educational Index to Periodicals*.
Authors alone are responsible for opinions and statements in the JOURNAL.

Entered as second-class matter January 15, 1919 at the post office of Menasha, Wisconsin under the Act of March 3, 1879.

HUMAN GEOGRAPHY

An Ecological Study of Society

By C. Langdon White, *Stanford University*
and George T. Renner, *Columbia University*

A thoroughly scientific and logically organized presentation of the fundamentals of geography, stressing the basic elements of world environment and human society and their interrelationships. The various elements of the natural environment are discussed and their influences on the life of man evaluated. *692 pp., illus. $6.00*

ENVIRONMENTAL FOUNDATIONS OF EUROPEAN HISTORY

By Derwent Whittlesey, *Harvard University*

This new book describes the geographic background upon which the events of European history have unfolded, each chapter dealing with the particular Europe that existed at the beginning of a great historical period. In each chapter is a discussion of the area, its natural resources, population, and the interrelationships of its people. *160 pp., 14 maps. $2.25*

THE UNITED STATES AND CANADA

An Economic Geography

By Alfred J. Wright, *Ohio State University*

Divided into three parts, this economic geography considers first the major industries of North America, then the important geographic regions of the United States and their industries, and finally the geographic regions of Canada, Alaska, Hawaii, Newfoundland, Labrador, and Greenland. *490 pp., illus. $4.50*

APPLETON-CENTURY-CROFTS, INC.
35 West 32nd Street New York 1, N.Y.

Tell Advertisers You Saw It in the JOURNAL

The JOURNAL *of* GEOGRAPHY

Copyright, 1949, by the National Council of Geography Teachers

VOLUME XLVIII OCTOBER, 1949 NUMBER 7

THE PLACE OF GEOGRAPHY IN A GENERAL EDUCATION PROGRAM*

GEORGE C. KIMBER
Sacramento Junior College, Sacramento, California

To speak to professional teachers of geography on the subject, "The Place of Geography in a General Education Program," may indeed be like carrying coals to Newcastle, for there are few geographers who are not keenly aware of the very important role of geography in well-nigh all phases of education, and of its supreme importance in the field of general education. My reluctance to speak at all was overcome by the fact that your president assured me that you were all patient souls, and would submit with but slight murmur to any verbal afflictions I might force upon you in the few minutes at my disposal, and your vice-president suggested the topic as being one of general interest. I presume that the best procedure in discussing this problem is at once to define our terms, to indicate as clearly as we may just why the problem is worth discussing at all.

GENERAL EDUCATION IN A FREE SOCIETY

In 1945 appeared one of the most important contributions to educational thought made in recent years, the Report of the Harvard Committee on the Objectives of a General Education in a Free Society. This report is in a sense the culmination of all recent attempts to analyze the basic problem of education in a free society, namely, how to educate youth so that free society itself may be preserved. The Report states: "The term, general education . . . is used to indicate that part of a student's whole education which looks first of all to his life as a responsible human being and

* Address delivered at the luncheon given by the California Council of Geography Teachers for its members and for the members of the Association of Pacific Coast Geographers, Berkeley, California, June 19, 1948.

citizen; while the term, special education, indicates that part which looks to the student's competence in some occupation."[1]

Clearly, to plan for general education is far more difficult, and to evaluate the attainment of goals is far less feasible, than is the case with special education. The mechanic is known by the work he does, the surgeon by his skill and success in the operating room, the scientist by the quality of his researches. But when may a person be regarded as a "responsible human being," when is a person a "good citizen"? It is akin to the old philosophic problem of the knowledge of the good. "If you know the good, why do you seek it? If you are ignorant of the good, how do you recognize it when you find it? You must evidently at one and the same time both know it and be ignorant of it. . . ."[2]

The much discussed Report of the President's Commission on Higher Education says, "The crucial task of higher education today . . . is to provide a unified general education for American youth. Colleges must find the right relationship between specialized vocational training on the one hand, aiming at a thousand different careers, and the transmission of a common cultural heritage toward a common citizenship on the other."[3] There must be some binding ties of common standards, common knowledge, common ideals and aspirations, to hold society together. Democracy "probably depends more heavily on these ties than does any other kind of society precisely because the divisive forces within it are so strong. . . ."[4]

Definition of General Education

A definition of general education to serve our purpose might run somewhat as follows: General education is that education which aims to make the student conversant with the world's best thought about the world's most important problems, and to enable him to participate in the rational solution of those problems with which he may be faced. In him should be developed neither exclusive interest in nor aloofness from contemporary life, neither worship nor disdain of those who have gone before, neither excessive admiration nor contempt for those who have worked elsewhere

[1] Harvard Committee, *General Education in a Free Society*, p. 51.

[2] *Ibid.*, p. 51.

[3] President's Commission on Higher Education, *Higher Education for American Democracy*, vol. 1, p. 49.

[4] Harvard Committee, *op. cit.*, p. 13.

with varying degrees of success. In him should be developed a sympathetic understanding of his antecedents, a feeling of comradeship with his contemporaries, and a sense of responsibility to those who follow. And his conduct should be a living testimony to his wisdom and virtue.

Dangers of Over-Specialization

How is this general education to be attained? Unfortunately, much of the published material on this subject is either destructive or vague. The President's Commission states, "Present college programs are not contributing adequately to the quality of students' adult lives either as workers or as citizens. This is true in large part because the unity of liberal education has been splintered by overspecialization."[5] Again, "Too often he [today's college graduate] is 'educated' in that he has acquired competence in some particular occupation, yet falls short of that human wholeness and civic conscience which the cooperative activities of citizenship require."[6]

A related thought is expressed in the Harvard Report: ". . . The course unit system is . . . in practice a divisive force. . . . And because it encourages students to think of their studies as a series of blocks, each a unit complete in itself and separable from all others, it has somewhat a similar effect on the individual student also. That is, it divides his work into compartments some of which may be related to others before or after, but many of which are simply islands of experience connecting with nothing, leading to nothing."[7]

It is evident that the required integration of block with block, and of the life-work of the individual with the life-work of others, does not come automatically. The degree to which it takes place depends upon the teachers, the quality of instruction, and the readiness with which the concept of integration of phenomena is fostered by the nature of the subject matter presented. It would seem to be equally evident that the substance, not the form, is of greatest importance. The mere inclusion of so-called "survey courses," required of everyone, will not serve to break down the evils of disjunctive specialization. Often they serve to destroy the

[5] President's Commission on Higher Education, *op. cit.*, p. 47.
[6] *Ibid.*, p. 48.
[7] Harvard Committee, *op. cit.*, pp. 13-14.

very unity they seek to achieve, thru the "unit" breakdown which they frequently display. The inclusion of a large heterogeneous set of topics does not inevitably imply breadth of training. It may instead develop a sort of grab-bag mental equipment, the items never becoming truly related.

Dangers of Over-Generalization

On the other hand, in avoiding Scylla, the many-headed monster of overspecialization, we must not run on to Charybdis, the whirlpool of overgeneralization. In our enthusiasm for classification on the basis of similarity of function and structure, and the reduction of phenomena to the operation of natural law, we may readily oversimplify our problems and the relationships of problem with problem. The unification of educational objectives, and the integration of block with block does not mean the rigid establishment of norms, either of subject matter or of method. We must recognize the exceptional and the unusual as a part of the whole, and we must welcome the facts which do not appear to fit in to our neat little schemes.

And especially must we recognize the concepts of *convergent phenomena* and *divergent phenomena,* as these were so well described by Dr. Irving Langmuir in his address as retiring president of the American Association for the Advancement of Science in 1942. He said that just as we have the concepts of classical physics and the concepts of quantum physics to be reconciled, so we have two types of natural phenomena in general to be reconciled.

"First, those in which the behavior of the system can be determined from the average behavior of the component parts, and second, those in which a single discontinuous event (which may depend upon a single quantum change) becomes magnified in its effect so that the behavior of the whole aggregate does depend upon something that started from a small beginning. The first class of phenomena I want to call *convergent phenomena,* because all the fluctuating details of the individual atoms average out giving a result that converges to a definite state. The second class we may call *divergent phenomena,* where from a small beginning increasingly large effects are produced. . . ."[8]

[8] Irving Langmuir, "Science, Common Sense and Decency." *Science,* n. s., vol. 97, no. 2505, p. 3. January 1, 1943.

Importance of Geography

It is our theme today that of all the subjects of the curriculum none is more essential to general education, both in factual content and in principles involved, than is geography. Whether it be the patient accumulation of weather records, their statistical analysis, and their synthesis into the basic and extremely practical science of weather and climate, or the study of the spread of revolutionizing culture phenomena such as the automobile and the telephone, the geographer is continually dealing with both convergent and divergent phenomena. It matters little whether his studies are regional or systematic, physical or human. The artist, the map maker, the business man, the farmer, the bare-foot boy, all study the landscape, and the geographer must consider all their varied interests.

We need not attempt here to define geography formally, nor even to mention more than a few of its attributes. Such matters we may well leave, for the moment, to Richard Hartshorne[9] and his friends,[10] reserving to ourselves the right to review. But we must at least say enough to justify our position. It is not without profit to pause from time to time and see if we can find the truly essential in what we are trying to do. No two of us, probably, would make identical lists. But we would all find that what we had listed fitted well into the pattern of general education. Without belaboring the points too much, let us merely mention a few.

Seven of the Disciplines of Geography

1. The very essence of geography is *unity amid diversity.* Geography is the study of landscape. The landscape includes earth and sky, rocks and water, trees and man; the landscape shows activity and repose. The landscape cannot be observed in its entirety all at once, yet it exists in its entirety and no part may be removed without changing the whole. The landscape is real, and not an ideal system, yet to understand and appreciate it fully one must observe it systematically. It may be viewed and dissected scientifically, yet it retains its aesthetic charm. It may be viewed

[9] Richard Hartshorne, "The Nature of Geography: a Critical Survey of Current Thought in the Light of the Past." In *Annals of the Association of American Geographers*, vol. 29, 1939, pp. 171-658.

[10] Lester E. Klimm, "'The Nature of Geography': a Commentary on the Second Printing." In *Geographical Review*, July, 1947, pp. 486-90.

by a hundred different people each a hundred different times, yet each time it will show a different phase. The landscape is static, yet it is the very embodiment of force and dynamic change.

2. The study of geography requires careful *observation, discrimination, and evaluation.* The landscape may not be described without the selection and evaluation of the essential elements, yet the details must be studied in order to determine which are really the essential elements. One of the functions of education is to make the big things look big and the little things look little. The geographer must discriminate between the great and the small.

3. Geography is the study of *relationships, development, and change.* There are continuous changes going on incident to the incessant struggle between the forces of building up and of tearing down, the forces of dynamic geology. In geomorphology we study the landforms resulting from the influence of weather and climate on the rock structures, the at once dependent yet determinant role of vegetation, the biotics of the country, and of man. Then there are the great migrations of plants and animals, and the restless wanderings of people. We study the rise and fall of cultures, based on geographic factors, and the parallel and divergent streams of development of those cultures. And we see in the "blind alleys, where cultural development appears to have ceased, the refutation of the common thought that progress is automatic, and inevitable." ". . . I will . . . go forward with my history," says Herodotus, "and speak of small and great cities alike. For many states that were once great have now become small: and those that were great in my time were small formerly. Knowing therefore that human prosperity never continues in one stay, I will make mention alike of both kinds.[11]

4. Geography *compares* landscapes. It sets one against the other, and notes the similarities and the differences. It notes the ever varying relationships between the parts, and brings together the convergent phenomena into systems and patterns, and anticipates the trends among the divergent phenomena. A study of geography cannot be avoided in any examination of the various culture patterns. It is an essential factor in art, literature, philosophy, and religion. In architecture, questions of structural materials, functional planning in terms of necessity ,and the force of persistent

[11] Herodotus, *History* (of the Persian Wars), Book I, paragraph 5, p. 9 (Godley translation, Loeb Classical Library).

cultural habits, all bear the geographic stamp. Industrial development and organization, whether primitive or modern, are affected unavoidably by the geographic setting. So are all the cultural features incident to man's occupancy of the land.

5. Then there is *the essential role of geography in history.* Whether we study the work of Herodotus or Thucydides, of Fairgrieve, Cornish, Spykman, Kroeber, Huntington, or Toynbee, we see the geographic factor in its intimate relationship with history, with the rise and fall of civilizations.[12] The intimate association of ancient city-states with their natural resources (as with Sparta, Corinth, or Athens), the shrewd and effective use of position by the commercial cities of the middle period (as with Bruges, London, Florence, Venice, or Geneva), the statesmanlike and daring use of the combined resources of many regions by modern states in their rise as great world empires (as with Spain, Portugal, France, Holland, or England), all testify to the role of geography in history.

6. Where can one find a more vital problem to all of us than *the geographic problem of world unity?* Geography takes the various landscapes and pieces them together, to make the earth's surface, to seek out and discover the unifying principles, the convergent and divergent phenomena, the causes of distributions. And when all is said, what a neat little package the earth is found to be, spinning along in its course about the sun! Pooling the industrial resources of the world in the interest of peace and social welfare, regional understandings for the purpose of securing liberty and freedom thru self-help, adjustment of individual states and peoples in the interest of all states and peoples, all these are geographic problems.

7. Finally, do we not find in geography a fertile field for the objective presentation of the *fallibility of human judgment and reason?* Many have been the articles on geography and human

[12] Herodotus, *History* (of the Persian Wars), c. 444-425 B.C.
Thucydides, *History of the Peloponnesian War,* c. 404-401 B.C.
James Fairgrieve, *Geography and World Power,* 1915.
Vaughan Cornish, *The Great Capitals,* 1923.
Nicholas John Spykman, *America's Strategy in World Politics,* 1942.
Alfred L. Kroeber, *Configurations of Culture Growth,* 1944.
Ellsworth Huntington, *Mainsprings of Civilization,* 1945.
Arnold J. Toynbee, *A Study of History,* 1933—. For the general reader the abridgement by D. C. Somervell, 1947, is more accessible, and quite satisfactory.
Similar works by the same and other authors will doubtless come to mind.

error. Stefansson's fascinating little book, "Adventures in Error,"[13] amusingly presents some. Leighly has effectively presented others.[14] Whether or not Columbus ever reached Thule[15] may not perhaps be so important as whether the interior of Greenland is highland or lowland,[16] but geography is replete with examples of human error based on factual ignorance. Whether it be Pytheas of Massilia,[17] or Peary and Cook,[18] controversies will rage on. And a mere examination of ancient maps goes far to explain the blunders of statesmen in the settlement of international boundaries and national territories.[19]

Yet far beyond the *errors of fact,* which may be corrected by observation and critical review (altho the unfortunate results of human acts based on those errors are not always so easily rectified), are the *errors of interpretation.* "Errors of the last-named sort . . . form a part of the general flux of scientific thought, in which the daring hypothesis of today becomes the accepted dogma of tomorrow and the outgrown error of the day after."[20] Is not the knowledge of the philosophy and methodology of science a part of general education?

GEOGRAPHY, THE CURRICULUM, AND THE TEACHER

Now how does all this fit into the picture of general education, and what are its implications for us? *First,* we can say that no program of general education in our colleges and universities can possibly be adequate without including geography in the program as a formal subject.

Second, we cannot teach geography as an isolated subject, leaving it to the student to relate it to other subjects as best he may. We must ourselves relate it in our own thoughts, and consciously present the relations of geography to human life and culture. If we are to lead students "to recognize the interdependence of the different peoples of the world and one's personal responsibility for

[13] Vilhjalmur Stefansson, *Adventures in Error,* 1936.

[14] John B. Leighly, "Error in Geography," in *The Story of Human Error,* edited by Joseph Jastrow, pp. 89-119.

[15] Vilhjalmur Stefansson, *Ultima Thule,* pp. 109-254.

[16] John B. Leighly, *op. cit.,* pp. 114-119.

[17] Vilhjalmur Stefansson, *Ultima Thule,* pp. 1-108.

[18] J. Gordon Hayes, *Conquest of the North Pole,* pp. 45-51.

[19] Charles O. Paullin, *Atlas of the Historical Geography of the United States,* 1932. See especially plates 8-32 and 89-101.

[20] John B. Leighly, *op. cit.,* p. 90.

fostering international understanding and peace,"[21] and "to understand the common phenomena in one's physical environment, to apply habits of scientific thought to both personal and civic problems, and to appreciate the implications of scientific discoveries for human welfare,"[22]—if we are to realize these objectives of a general education, we as geographers must make a conscious effort.

Third, we must bend every effort to see to it that geography as a formal subject in the spirit of general education, taught by qualified instructors, is made an essential part of the training program of all teachers. Interest in and understanding of geography on the part of students depends upon the appreciation of and the attitudes toward geography on the part of the teachers. Most of the time of most of the teachers in grades below the thirteenth is being devoted to students in the field of general education. All teachers working in this field should understand the significance of geography in human affairs, and should be able to use the geographic approach when teaching their own specialties.

Fourth, professional teachers of geography must think of their work as being in large part for students in general education, as well as for the prospective professional geographer.

Says Wallace Brett Donham, formerly Dean of the Graduate School of Business Administration, Harvard University, "Since no graduate school of arts and sciences gives effective attention either to general education or to the necessary background for such education, it is not strange that almost no college gives it. In fact, within the limits imposed by the Ph.D. fetish there is no university source from which men equipped by their own training to offer general education to students can be obtained."[23]

Why should not departments of geography in universities offer major curricula leading to broadly trained men and women with a strong leaning toward the geographic point of view, and sound geographic knowledge, in addition to curricula for professional geographers? Why should they not offer courses in summer session, service courses for teachers who crave geographic knowledge to enrich their teaching?

A General Education Curriculum

In conclusion let me say that beginning next fall at Sacramento

[21] President's Commission on Higher Education, *op. cit.,* p. 51.
[22] *Ibid.,* p. 52.
[23] Wallace Brett Donham, *Education for Responsible Living,* 1946.

Junior College we are offering a definite curriculum in general education. The details are being worked out by a committee consisting of all instructors taking direct part in the program, together with representatives of the Sacramento State College, with which we have no official connection but with which we enjoy the most cordial professional relations.

The curriculum is designed for the general student. Some will stop at the end of the first year, some at the end of the second. Some students will continue at Sacramento State College (most of them probably in teacher-training curricula), some will transfer to the great universities. Our aim is to give all we can to all we can in the time available and in a coordinated program. Class schedules have been cleared, so no conflicts can develop. Clearly, those who plan to go to the University of California, or to other institutions with similar requirements, must have completed the normal university-preparatory high school curriculum, and must in many cases modify their programs by including work in foreign languages. This will have to be done at the sacrifice of the courses in Art, regardless of our local feelings regarding the relative value of the two fields to the general student.

Two other points should be remarked, in order fully to appreciate what we are trying to accomplish. First, the student takes the full curriculum as a unit, with only such modifications as may be deemed essential for him by his counselor. Second, every course included is standard (except one) and entirely acceptable to any college or university in the country. No administrative adjustment of any kind is involved, beyond clearing the schedule of conflicts and setting up the committee of instructors. AND THE BUDGET IS NOT AFFECTED IN ANY WAY!

SEMESTER SEQUENCE OF SUBJECTS

The curriculum is as follows:

First Semester

Physical Education		½
Hygiene		2
English 1A	Composition	3
History 4A	History of Europe	3
Astronomy 1A	Introduction to Astronomy	3
Art 1A	History of Art	3
Art 3A	Appreciation of Art	1
Music	Band, Orchestra, or Chorus	1
	Total	16½

Second Semester

Physical Education		½
English 1B	Appreciation of Literature	3
History 4B	History of Europe	3
Geography 1	Introduction to Geography	3
Psychology 1A	General Elementary Psychology	3
Art 1B	History of Art	3
Art 3B	Appreciation of Art	1
Music	Band, Orchestra, or Chorus	1
	Total	17½

Third Semester

Physical Education		½
English 44A	World Literature	3
History 17A	American History	3
Anthropology 1	General Anthropology	3
Philosophy 10A	History of Philosophy	3
Art 11	Elementary Drawing	2
Art 31	General Crafts	2
Music	Band, Orchestra, or Chorus	1
	Total	17½

Fourth Semester

Physical Education		½
English 44B	World Literature	3
History 17B	American History	3
Geography 2	Human Geography	3
Philosophy 10B	History of Philosophy	3
Botany 1B	General Botany	4
Music 51	Recreational Music	1
Music	Band, Orchestra, or Chorus	1
	Total	18½

How effective our efforts will be, time alone will tell. We hope that the mixing of ideas advanced by the various members of the committee will produce the concrete to build the bridges between the islands of experience, connecting with past and future educational experiences, leading to happy and useful lives in the tradition of western civilization. Perhaps some of our students will become professional geographers. But, after all, that depends on what the colleges and universities do with them afterwards.

GEOGRAPHY: SEEN FROM THE OFFICE OF EDUCATION*

OTIS W. FREEMAN
Specialist for Geography in Higher Education

Presented by

CLAUDE E. HAWLEY
Associate Chief for Social Sciences, Division of Higher Education

During the current year the Office of Education has greatly expanded its work in the social sciences. In the Division of Higher Education three specialists were hired on a permanent basis in the fields of economics, geography, and history along with an associate chief for instruction in social science. As opportunity offers in the future, it is expected that additional personnel may be added.

The cadet student training program, given in colleges and universities under the auspices of the Army and Navy during World War II, provided for instruction in geography, which was usually divided into courses in principles of geography, economic geography and political geography. The military recognized the contribution that geography could make to the education of officers. Unfortunately, well-trained geography teachers were not available in sufficient numbers to serve as instructors and the results were therefore often inadequate. In fact, instructors in varied fields with no education in college geography were sometimes assigned to teach the subject. Wars cause an increased interest in maps and foreign localities by students and the public generally. To help satisfy this demand many colleges and universities have expanded their offerings in geography since the War and some institutions are giving courses in geography for the first time. It was in part a response to these obvious needs that the Office of Education added their first Specialist for Geography in Higher Education.

The duties of a specialist in any social science are numerous and varied. In general he is called upon for advice and counsel, both by letter and from callers at the Office. He is also concerned with specific long range and short range projects. In connection with these there is investigation and collection of statistics, the analyzing of the data, and finally publication and dissemination of

* Presented at the Chicago meeting of the National Council of Geography Teachers, November, 1948.

the results. Publicizing the results may be done by means of short articles, speeches at appropriate meetings, and the preparation of occasional bulletins. Service on committees of national organizations in the field of his specialty is another obligation. Then there are overall Office projects to which a specialist may be expected to contribute. Frequent conferences attended by outside authorities provide a means for the Office specialists to exchange ideas with other members of the conference, and to obtain information regarding educational trends and needs. Such conferences are very useful in the selection of future projects. Specialists are expected to obtain approval from their supervisors for a tentative use of time for some months to a year in advance. In theory, this might somewhat restrict the areas in which a specialist could work, in practice there is ample freedom for initiative and choice.

During eight months' association with the Office of Education, the Specialist for Geography in Higher Education was concerned mainly with short range projects, altho some planning was done on long range projects.

Geography in the Colleges

One of the short range projects dealt with the offerings of geography in institutions of higher learning. From a study of 1015 catalogs of teachers colleges, liberal arts colleges and universities it was found that 23 have granted or are prepared to grant the Ph.D. in geography. Including teachers colleges 41 additional institutions grant the Master's degree in geography. In addition, some other universities occasionally give an advanced degree in geography as an accommodation to a selected student. One-sixth of the 720 liberal arts colleges and universities surveyed offer a major or a minor in geography towards the A.B. degree. Nearly three-fifths (58.6 per cent) give some work in geography, but about 60 per cent of these offer geography only as a service subject. Most frequent service subject is economic geography for the schools or departments of business. Geography is almost universally included among the offerings of the 190 teacher training institutions surveyed, and two-thirds of the colleges of education offer a major or minor in geography for the bachelor degree. Two institutions, George Peabody College for Teachers and Teachers College of Columbia, offer a Ph.D. in the teaching or supervision of geography. At least 8 other teachers colleges grant a master's degree

in geography. Among 105 Negro colleges 80 per cent teach some geography but only about one in ten offers enough courses to provide a major or minor for the bachelor degree.

According to preliminary figures received by the Office of Education for the academic year ending June 30, 1948, there were 266,703 bachelor's, 41,716 master's and 4,598 doctor's degrees granted in the United States. This total of over 313,000 degrees exceeded any previous year by almost 100,000. Of the total graduates, 321 bachelor's, 154 master's, and 16 doctor's majored in geography, of whom about one-third were women. The number of majors in geography is about one out of every 600 graduates or a percentage of one-sixth of one per cent. The 16 Ph.D.'s, of whom two were women, were obviously not a sufficient number to satisfy the demand for well trained college teachers of geography. For comparison, there were over 10,000 graduates in history, over 9,000 in economics, over 6,000 in sociology, nearly 5,000 in political science, and 2,500 in social science, which presumably is a combination of several areas. Geography is in the weakest position of the social science subjects except anthropology in which only 186 students majored. Many students, however, take one or more courses in geography as electives who do not major in the subject, and in institutions which offer geography total enrollments in this field compare more favorably with other social sciences than the number of majors would indicate.

Purposes of Geography

Geography has both practical and cultural applications. At the graduate level, majors in geography generally seek employment as teachers or in government service. Besides men who are called by the title of geographer, there are many who were trained in geography who are employed as economic analysts and specialists in foreign and domestic trade, state and military departments, conservation, experts on supply for military intelligence, cartographers and meteorologists. Some of those planning for state, city, and rural agencies are geographers. Some geographers are employed by private industry as experts in foreign trade, transportation and as economic analysts. At the four year and junior college level, geography is valuable for the training of elementary and secondary school teachers, students in business, journalism, history, language-area and for general education. It is frequently in-

cluded in basic survey or general education courses. It has high cultural value in explaining landscapes and the relationship of man to landforms, climate, soils, location, and natural resources. This inter-relationship between man and nature arouses the interest of students. Geography helps to make subjects like history, literature, art and current events more interesting and intelligible. Every citizen would benefit from a comprehensive course in political geography.

The offerings of geography can be classified into technique, regional and systematic courses. Practically all colleges which give more than a service course in economic geography offer as the first course one called Principles, Elements or Fundamentals of Geography, which is followed by selections from the three groups mentioned.

Technique Courses

Geography deals with the earth, and teachers of the subject recognize the need for proper techniques for mapping natural and cultural features of the earth's surface. Of 120 colleges and universities offering a major or minor in geography two-fifths offer cartography and one-third list map reading or interpretation as a subject. The technical course, photogrammetry (aerial mapping), is given by six universities. Military geography is seldom offered because it is such a highly technical subject that the armed forces prefer to train their own specialists. Only 8 per cent of the teachers colleges offer cartography and fewer yet give map reading as a subject, but doubtless many offer some instruction in both lines in their beginning and methods courses.

Field courses offered for group instruction include: field mapping techniques, field camps and field travel. Some 42 colleges offer field mapping and 10 list two or more field courses. Field camps lasting two or three weeks and providing practice in field techniques are maintained by Clark, Northwestern and Syracuse Universities. Field travel courses lasting for a week to several weeks are offered by geography departments in several institutions. About one-eighth of the colleges of education list field trips or field courses in geography.

Geography in education or geography methods is given by one-sixth of the liberal arts colleges and universities which grant a major or minor in geography. Nearly one-fourth of the colleges of education give a similar course but only 5 per cent of the Negro colleges list this subject.

Regional Geography

The continents are the core of most geography curricula. In descending order of frequency of offering come North America, South America, Europe, Asia, Africa and Australia. Other recognized areas taught include: Mediterranean region, Caribbean or Middle America, Pacific and Soviet Russia. The Polar Regions are taught in two universities. The Holy Land is listed as a distinct course in six schools. The geography of the home state or region is offered by over half (55 per cent) of all institutions giving a major or minor in geography. Courses are given on three regions of the United States: the South, Pacific Northwest and New England in descending order of frequency. World geography is offered by nearly half of leading geography departments.

Most universities giving graduate work in geography give courses on subdivisions of continents. For example 70 per cent of such institutions list courses on sub-divisions of Europe (i.e., Northwest, Southern, and East or Southeast) but only 3 per cent of the colleges of education and none of the Negro colleges offers similar subjects. The same sort of situation holds true for Asia. The trend at the graduate level in geography is toward increasing offerings descriptive of smaller areas compared with the courses listed a few years ago.

Systematic Courses

The courses allied to physical science that are commonly included in geography curricula are meteorology, climatology and physiography, and about half the colleges which give a major or minor in geography offer these subjects. About 8 per cent of these institutions also offer physiography of the United States but only two list a course in physiography of the world. One (Louisiana State University) offers alluvial morphology and another (St. Louis University) offers "River Systems of the World." A few universities list courses in biogeography, usually plant geography, although two schools include animal geography and Clark University offers "Life Zones and Regions." Southern Methodist University offers "Forest Geography" while "The Grasslands" is a course taught at the University of Kansas City.

Cultural systematic courses offered most frequently by the colleges and universities which give majors and minors in geography are: conservation (60 per cent), political geography (48 per cent),

and historical geography of the United States (27 per cent). Other courses occasionally listed include: urban geography or trade centers, transportation including airways, land utilization, agricultural geography and soil geography. Economic geography is almost always included and human geography is frequently offered, generally at the undergraduate level.

Courses offered by one or more institutions include: frontiers in geography, population problems, cultural geography of North America, problems of colonial America, problems of tropical life, soil and land use in humid equatorial regions, geography factors in cultural evolution, geography of settlement, geopolitics of Europe and Near East, strategic materials, geography of minerals, race and culture, war geography, geographic aspects of world peace, recreational land use (Michigan State College), water resources (Denver University), and demography (Clark University). Some of these and numerous others represent special interest of the teacher or the location of the institutions.

Long Range Programs

Merely a start has been made on long range projects in geography, one example being the preparation of a general article on the purposes of college geography. In future years it is anticipated that there will be annual contributions describing the trends in the field of geography. This should include trends in geography offerings and purposes, in theses subjects and in textbooks and techniques. The periodic listing of current source material in geography would be another useful favor to teachers. It is hoped that ultimately the Office of Education may become a clearing house for geographic information.

During the year there have been several calls about student enrollments in the various college classes in geography. This information has not been available, but it is hoped to collect data along this line during the coming year. This will be a part of a large project to cover student enrollments in all college classes and subjects every four years. When this project has been carried on for a time it will be highly useful in determining demands, trends and the fields covered by geography along with other college subjects.

Little has yet been done concerning a testing program in college geography. It is clear that this would be of use to teachers of the subject and it should be included among the long range projects.

Methods and procedures, various classes of materials and varied types of instruction are among the things that might be tested for gains in student knowledge and rapidity of learning.

SHORT RANGE AND PERMANENT DUTIES

Besides the project on offerings of geography in the institutions of higher learning in the United States, several other papers have been prepared for publication or for presentation at meetings. Among these are: "Geography Offerings in the Colleges of the Farwestern States," "Man in the Pacific Northwest," and "Contributions of Geography to American Democracy," which illustrate some of the varied interests of a geographer. Research was also begun on the roots and bases of American democracy as related to factors of geography but work on this project has been suspended.

There are set duties for the geographer in education as for any public official. Correspondence must be answered and committee work carried on. There is writing and editing of articles for publication both inside and outside of the Office outlets. During the year the Specialist for Geography, who is also geography editor of an educational journal, solicited papers and edited the manuscripts for a geography number (September, 1948) for the magazine *Education.*

An important and pleasurable duty is speaking when requested by various associations of teachers, etc., and visiting and advising with departments of geography and teachers of the subject and their students.

LIMITATIONS AND OPPORTUNITIES

In the Office of Education we are trying to be of service to the teachers of the country without taking sides on controversial questions or favoring any method, textbook or course of study above another. The Federal Office does not formulate a course of study, but does compile and supply information about courses in geography and the institutions which offer graduate work in the subject and about the textbooks, references, and source materials used. It does not tell anyone what he should teach or how he should do it, but the Office does collect and furnish on request information about methods and procedures that have been successfully used by teachers of geography. For example, among other articles, the Specialist for Geography published a paper on field trips and field courses in

which many colleges that give these courses for credit were mentioned.

Geography is an especially fertile field for the use of visual aids. There are frequent calls to observe and judge visual aids and furnish information by request. The testing of visual means of instruction is part of a long range project by another division of the Office of Education, in which those in geography will be called upon for counsel and suggestions.

In general, the purpose of geography specialists in the Office of Education is to assist teachers of the subject in every way possible.

PUERTO RICO—ISLAND OF EXTREMES

WILLIAM N. HARRIS
University of Toledo

PART I

The Natural Environment

Puerto Rico is the smallest and most easterly of the four islands —Cuba, Jamaica, Hispaniola and Puerto Rico—which make up the Greater Antilles. It is an important link in the chain of volcanic islands extending from the tip of the Florida peninsula to the northeast coast of Venezuela and enclosing the Caribbean Sea.

Location and Setting

Measuring approximately 100 miles from west to east and more than 35 miles in width, Puerto Rico has a total area of 3,435 square miles, including the islands of Culebra, Mona and Vieques (Fig. 1). Its strategic position as a Caribbean outpost is exemplified by the following distances: 970 miles to the northwest lies Miami; 880 miles to the west is the Panama Canal; while the northern coast of South America lies a little more than 500 miles to the southeast.

Physiography of the Island

Puerto Rico, the most mountainous island in the south Atlantic, is in reality a crest of the submerged Antilles Chain whose actual heights are hidden by the partial cover furnished by the adjacent Atlantic Ocean and Caribbean Sea. Approximately 45 miles off the

northern coast of the island lies the Milwaukee Deep, a chasm of 27,922 feet, while another great deep, the Brownson, is 100 miles to the north.

On the basis of topography Puerto Rico can be divided into three major physiographic areas, namely: (1) a central core of rugged mountains; (2) hilly to mountainous dissected uplands; and (3) the coastal plains which fringe the island. Extreme ruggedness

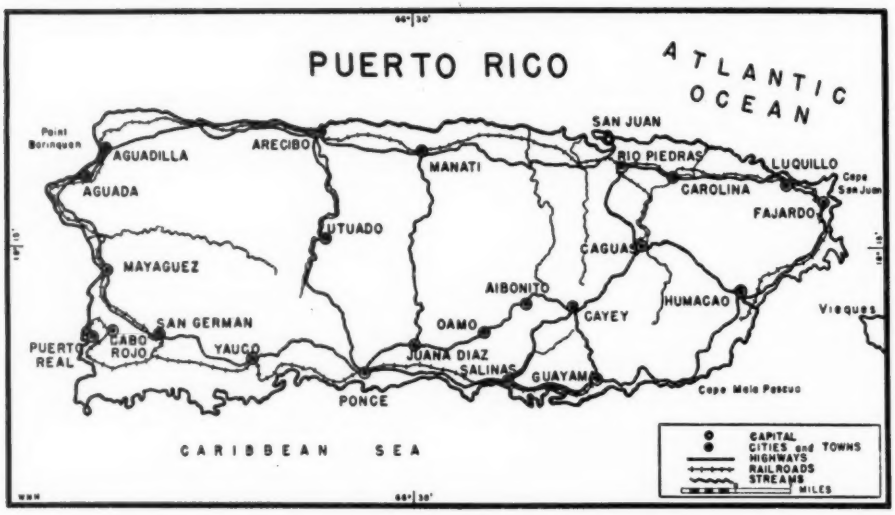


FIG. 1. Map of Puerto Rico showing highways connecting major cities and villages. The almost-completed railway fringes the island's periphery.

typifies Puerto Rico's interior. A mountainous backbone, the Cordillera Central, extends almost the length of the island and averages 2,500 feet in elevation, with a number of mountain peaks exceeding 3,000 feet. Numerous spurs, some terminating in sea cliffs, branch fanwise from the central range into the coastal plains. The great west-east divide presents two drainage surfaces, one to the north, wide and undulating, and one to the south, narrower and consisting of coalescing alluvial fans and terraces. Puerto Rican agriculture benefits greatly by this intricate hydrographic system, especially since large amounts of fertile soil is carried from the rugged interior and deposited along the valley bottoms.

General Climatic Characteristics

The tropical marine climate of Puerto Rico, with its abundance of sunshine, mild temperatures of a low-latitude ocean, refreshing

effects of the trade winds, and invigorating night temperatures, is perhaps its greatest asset. There are no variations in summer and winter temperatures, nor a well-defined rainy season, topography alone being the chief factor responsible for climatic characteristics (Fig. 2).

Rainfall, a most critical factor on an island so dependent upon agriculture as Puerto Rico, is determined to a great extent by

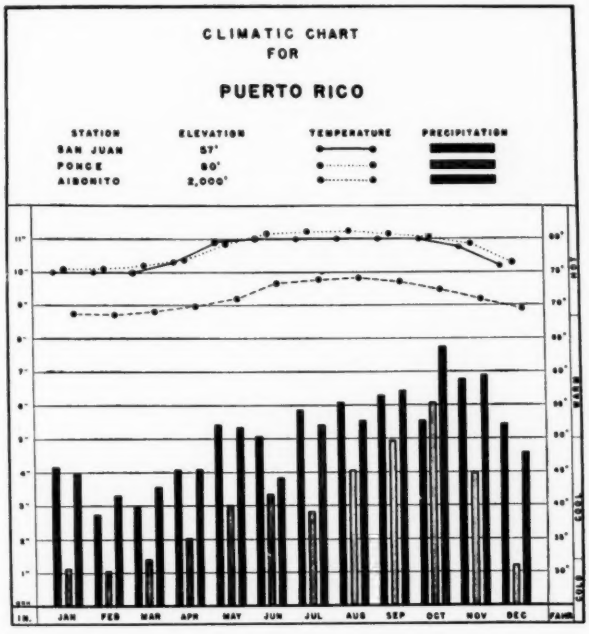


Fig. 2. Climatic chart for Puerto Rico. The three stations clearly illustrate the influence of topography upon both rainfall and temperature.

north-jutting spurs of the dividing range. These "rain-manufacturers" force the moisture-laden trade winds from the northeast to precipitate their moisture on the higher elevations, leaving very little for the warmer lowlands to the south. Heavy down-pours of short duration, followed by liberal portions of sunshine are common, but occasionally this cycle is interrupted by continuous heavy rains of tropical cyclonic extent. Convectional rains, both local thunderstorms and those induced by topographic upward deflection of air currents, account for a large percentage of the average annual rainfall of 61.18 inches. However, the effectiveness of this seemingly high total is lessened considerably by the high mean temperatures and almost constant air movement.

Topography also shows its influence upon temperature. An absence of extremes is especially noticeable along the windward coastal areas, largely because of the mild and equable temperatures of the sea which move inland by the constant trade winds. The annual range of temperature at San Juan is only 5.7°F. However, the ameliorating influences of the sea are less effective in the mountainous interior where temperatures average approximately 5°F. lower; the same is also true in the protected drier southern coastal areas where temperatures may reach into the high 80's.

Cooling and refreshing trade winds are welcomed along coastal sections of high temperatures and humidity, where excessive evaporation makes pleasant those areas which would otherwise be unbearably hot. During the nights cool land breezes from the mountainous interior move down into the valleys and coastal areas, resulting in invigorating night temperatures, a most appreciated factor in a tropical climate.

Soils

Variations in climate, vegetation, and rock formations within a limited land area have produced a rather complex soil pattern. Alluvial soils, washed from the high lands of the interior, are the most productive of Puerto Rico and chiefly utilized for sugar cane. Few crops can compete with sugar cane on these higher priced lands which make up the many river floodplains and areas just inland from the flat and boggy coastal lowlands. Black soils of the densely-populated interior produce much of the island's best quality tobacco, the shallow-rooted plants being more suitable to the thin soils and steep relief of this area. Thousands of "jibaro"[1] farmers, unable to pay for the fertilization of more acid soils, have migrated into the more rugged sections to grow subsistence crops and some tobacco, with over 60 per cent of this soil being devoted to crops of this type (Fig. 3). One of the most productive soils is found along the semi-arid southern coast. Soils washed from the highlands and deposited as coalescing alluvial fans have retained their original plant nutrients because of less rainfall; then too, erosion is held to a minimum in this region of near-level topography. Irrigation is practically a necessity in this drier section of the island, but higher yields per acre offset the additional expenses involved.

[1] The term refers to the poor farmer of the interior of Puerto Rico.

Native Vegetation

A heavy luxuriant vegetative covering, normally associated with tropical regions, is practically non-existent in most of Puerto Rico. Swamp vegetation, such as mangroves, reeds and cattails, dominate the coastal lowlands; checkerboard fields of sugar cane interspersed with malojilla grass characterize the near-level alluvial

Fig. 3. A typical rural scene, illustrating the crude agricultural methods still being employed in many sections of the island.

terraces; and forests of mahogany, mamey, tree-ferns and sierra palms reflect the shallower soils of the rugged interior regions. Most prominent of tropical trees is the coconut palm which is a provider of heat and shelter, clothing and cordage, and even food and drink for a people so dependent upon their immediate environment.

Part II. The Cultural Landscape

Christopher Columbus first took possession of the island, then called Borinquen, in 1493. Altho he named the island "San Juan"

and King Ferdinand of Spain named the capital "Puerto Rico," both names were later interchanged, and thus they remain today. Captain Juan Ponce de Leon, in August, 1508, explored the island, and in the following year began colonization; migrations however were slow because of more promising lands elsewhere. Puerto Rico remained under Spanish control until 1898 at which time it was then ceded to the United States under terms of the peace treaty which ended the Spanish-American War.

Population and Its Distribution

More than two million people live in Puerto Rico, making this island the most densely-populated in the Western Hemisphere. Three racial types dominate the population: the Spanish creole, estimated to be 65 per cent of the total; the mulattoes, estimated at 30 per cent; and the African Negroes, making up perhaps 5 per cent. Definite color lines are lacking, but generally the whites dominate the professional classes and are the larger land-owners, while mixtures are common among the poorer working classes. Exceptions to this are the "jibaros," peasants of the interior, who have been likened to the poor whites of the southern Appalachian region in the United States. African blood is more prominent along the coastal areas, evidence of former days when a flourishing slave trade existed, but Negroes may be found today in any of the islands many occupations.

Urban versus Rural

San Juan (pop. 215,447), the only truly urban area, is located on Cape Escambron, a rocky headland on the northern coast of the island. Luxuriant hotels and recently-paved streets in scattered sections of this port-city stand out in marked contrast to stately buildings of Spanish architecture and narrow crooked streets of cobblestone—an intermingling of the present with the past. Ancient forts, such as El Morro and San Cristobal, emerge as strong bulwarks along the prominent approaches to the bay area and are reminders of more daring and romantic days when pirates roamed these tropical seas of the Spanish Main. Congested tenement courts line the city's byways, miniature frame cottages reach out into the suburbs, and unsanitary hovels built by "would-be" carpenters from any material available, reflect already overcrowded conditions which hesitate to stop even at the shoreline.

Fig. 4. Typical thatched hut of the "Jibaro," mountaineer of the interior.

Major cities other than San Juan are: Ponce (pop. 71,406), on the southern coast, often referred to as the "Pearl of the South," and Mayaguez (pop. 58,265) "Sultana of the West," facing Mona Passage on the west. The Spanish "plaza" or public square, city hall, and impressive churches are essential features of most towns and cities of the island.

Mountaineers of the interior present a remarkable characteristic in a country where crowded conditions prevail—that of isolation. Flimsy huts, leaning over precipitous slopes or hugging mountain ledges, dot a landscape cut by deep ravines, each isolated in spite of the proximity of its neighbors. There lives the "jibaro," apart from the world, except for occasional visits to his landlord, the local store or to the nearest school. Thatched huts, boxed-affairs topped with galvanized roofing, and frame tenement houses offer some protection for the elements for the poorer working classes who must get along with the barest of essentials (Fig. 4).

Transportation and Communication

Puerto Rico has an intricate network of roads which is the best in the Caribbean Islands; the network should eventually break

down the lack of social contact noticeable among the "jibaros" of the interior. Still inadequate, however, are the oxcart trails of the central sections of the island where quick delivery of perishable food products is of utmost importance in a borderline economy. Insular transportation is virtually monopolized by privately-owned buses or "publicos"; these are elongated sedans or station wagons, less expensive and more reliable carriers of freight and passengers thruout the island. Major highway improvements, as outlined by the Puerto Rico Planning Board, include: two trans-mountain highways, San Juan to Ponce, and Arecibo to Ponce, and a circumferential coastal highway, all of which will serve the greater population centers.

Railway construction started slowly under the Spanish and was continued intermittently by the American Railroad Company, and later by a native corporation known as Compania Ferroviaria de Circumvalacion de Puerto Rico. This is a narrow-guage line with an approximate length of 300 miles which practically encircles the island except for a 46 mile gap between Guayama and Humacao.

Regularly scheduled ocean steamers ply between Puerto Rico and the United States, as well as more distant ports. Both passenger and cargo service is offered by five steamship companies. Ocean carriers handle bulk and heavy cargoes, with sugar being approximately 90 per cent of Puerto Rico's export volume.

With its "stepping stone" position between the Americas, Puerto Rico has a strategical advantage with respect to air transportation. Two air lines provide service to major cities in the United States, and one continues on thru to Central and South American cities. In the future fast air transportation may enable Puerto Rico to become a more formidable competitor of its neighbors, Florida and Cuba, in dealing with specialty crops.

Agriculture, Commerce and Industry

Deficiencies in resources, including land, coupled with an ever-increasing population, produce an economic complexity often unappreciated in more fortunate countries. With an economy based on agriculture and a land not especially fertile, Puerto Rico must turn to more efficient uses of its limited tillable areas besides developing new industries.

Sugar cane as the chief crop, represents the greatest single source of employment and leads in total acreage devoted to a single

crop. Under the protective wing of the United States tariff, the industry has had a phenomenal expansion despite quota restrictions until now it far surpasses the nearest rival crops, tobacco and coffee. Sugar sales greatly facilitate purchases of varied products from the United States. The balance of trade is not always favorable as it depends chiefly upon the prevailing price of sugar. A major portion of the alluvial floodplains and river terraces composing the island's periphery is planted to sugar cane.

Tobacco, second export crop of importance, is grown in the Southeastern Highlands near Cayey and Aibonito (filler type) and scattered northern coastal sections, from Aguadilla to Vega Baja (chewing tobacco). An unstable market and low yields per acre have caused many farmers to abandon thousands of cuerdas (cuerda equals .9712 acre) in favor of the more dependable sugar cane. Average yields are lower than those of the United States since Puerto Rico's tobacco producing areas are mainly limited to the steeper and less fertile interior. A large portion of the 25 million pounds produced in 1946 was shipped to the United States, this representing approximately 14 per cent of the total export value for the same year.

During the latter half of the 19th century coffee enjoyed an enviable position as leading export of the island, with Cuba and Spain as the principal markets. However, a series of devastating hurricanes plus a loss of European markets have reduced coffee to an insignificant position. Storm damage to the coffee plantations is especially discouraging to the grower who must wait five years in order to obtain another crop. Recent innovations by the Insular Government to insure crops against hurricane damage may change this situation somewhat. Coffee farms are located in the southwestern mountainous interior, a region of thin soils and steep slopes unsuitable for most other crops.

Sea Island cotton, a long-staple variety of high quality, is grown along the northwestern and southwestern coastal plains, but a combination of numerous visitations by tropical insects and the competition of larger-producing countries, plus an unstable market, forecasts little possibility for any great future development. However, Puerto Rico could export its better quality Sea Island cotton to the United States and import cheaper grades of raw cotton to be processed in local mills. By shipping refined instead of raw sugar, the sugar bag industry alone should encourage

the production of coarser grade cotton textiles on the island.

Of all the sugar by-products, rum has become increasingly important among the island's exports. Rum is made from either cane juice or from molasses obtained in the sugar process, so its production closely correlates that of sugar, Puerto Rico's leading export. Other by-products of sugar are: bagasse, the pulverized sugar cane stalk, filter-press muds, and molasses. Altho still exporting large quantities of molasses to the United States, the island can profit most by converting it into rum or industrial alcohol before shipment abroad.

Needlework, one of the few important industries not based on agriculture, has grown from a simple domestic occupation confined to the needs of home and local market, to one of the leading export industries (Fig. 5). Altho much of the sewing and embroidery work is still being done by women in the home, handicraft industries have sprung up in San Juan and Ponce; Mayaguez is the center for Puerto Rican needlework.

The Outlook

Many new enterprises have sprung up within the past decade, many based upon products to be used locally and which will make for a more favorable balance of trade. To encourage cheaper building construction, the Puerto Rico Cement Corporation was established at Catano in 1938 thru the efforts of the United States and Puerto Rico governments. High grade limestone and clay can be obtained locally, but the necessary gypsum must be shipped in from Santo Domingo or Nova Scotia. This young corporation was soon followed by another cement plant at Ponce, in 1942, under the name of the Ponce Cement Corporation. Further possibilities towards utilization of local resources is exemplified in the more recently completed Clay Products Plant at Carolina. The production of roofing tiles, floor tiles, sanitary ware and clay pipe will do much to alleviate demands for less expensive materials for local consumption. Another new industry of the island is the Puerto Rico Glass Corporation of Catano which began production in January of 1945. With an average monthly sales of $150,000 and a monthly production of approximately four million bottles, the plant has a bright future in serving the island's important rum industry. Also serving the needs of both rum and glass industries is the recently established Puerto Rico Pulp and Paper plant near Catano; its

major manufacture is corrugated bottle containers from waste paper and bagasse.

Although lack of tourist facilities prevents any great expansion of that industry in the immediate future, many new hotels are being constructed to accommodate visitors to an island blessed with perpetual spring and a choice panorama of landscapes. Tourism promises to become an important source of revenue as soon as the necessary facilities can be made available.

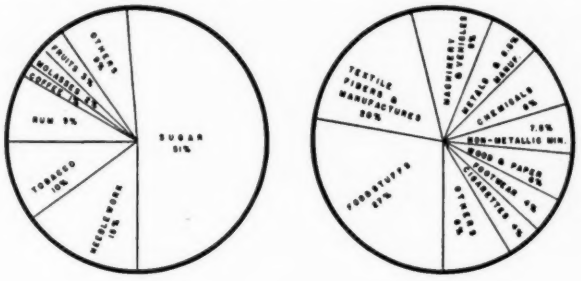


FIG. 5. Major exports and imports for the years 1935-1946.

In spite of an ever-increasing growth of population on an island so limited in natural resources there may yet be a "silver-lining" in Puerto Rico's future. Present plans include an expansion and diversification of agricultural pursuits and the development of many additional industries. To promote industrial development, the Insular Legislature established in 1942 the Puerto Rico Industrial Development Company. Its purpose is to encourage the development of new industries thru the use of local raw materials whenever possible; also to facilitate the establishment of semi-mechanized and handicraft industries by furnishing both financial and technical assistance. A post-war development of industries will lessen present dependence upon a one-crop agriculture system as well as upon many imports which may well be manufactured for domestic consumption.

UTILIZATION OF FIELD AREAS IN TEACHING CONSERVATION AT THE UNIVERSITY OF WISCONSIN

ARCH C. GERLACH
University of Wisconsin

The Geography Department of the University of Wisconsin offers a course in resource conservation which has undergone an extraordinary rise in registration during the past two years. Attendance has increased from 29 or 30 students in alternate semesters of 1945 and 1946 to an average of 142 in consecutive semesters of 1948.

That increase was not matched by a proportional growth in total university registration, nor by comparable changes in other courses taught by the same professor. The prerequisites for the course have not been altered and the state law requiring conservation training for all public school teachers certificated in Wisconsin has not been modified since 1937. The increased demand for conservation training may be due to increased interest on the part of the general public, but the enrollment change in that course took place abruptly with the reintroduction of numerous field trips when wartime transportation restrictions were removed. The field trips have proved to be exceptionally useful vehicles for:

1. teaching observation—really seeing and comprehending what falls within one's field of vision;
2. presenting subject matter by direct contact instead of thru textbooks, lectures, and illustrations;
3. providing experience in gathering reliable information thru interviews—the techniques of gaining the confidence of people interviewed, evaluating their competence, and distinguishing fact from opinion;
4. exposing students to divergent opinions—especially among people directly associated with resource problems and conservation methods;
5. stimulating interest in community development;
6. demonstrating organization—thru a carefully pre-arranged trip;
7. building a strong class morale.

The Eagle River Trip is the most expensive and time consum-

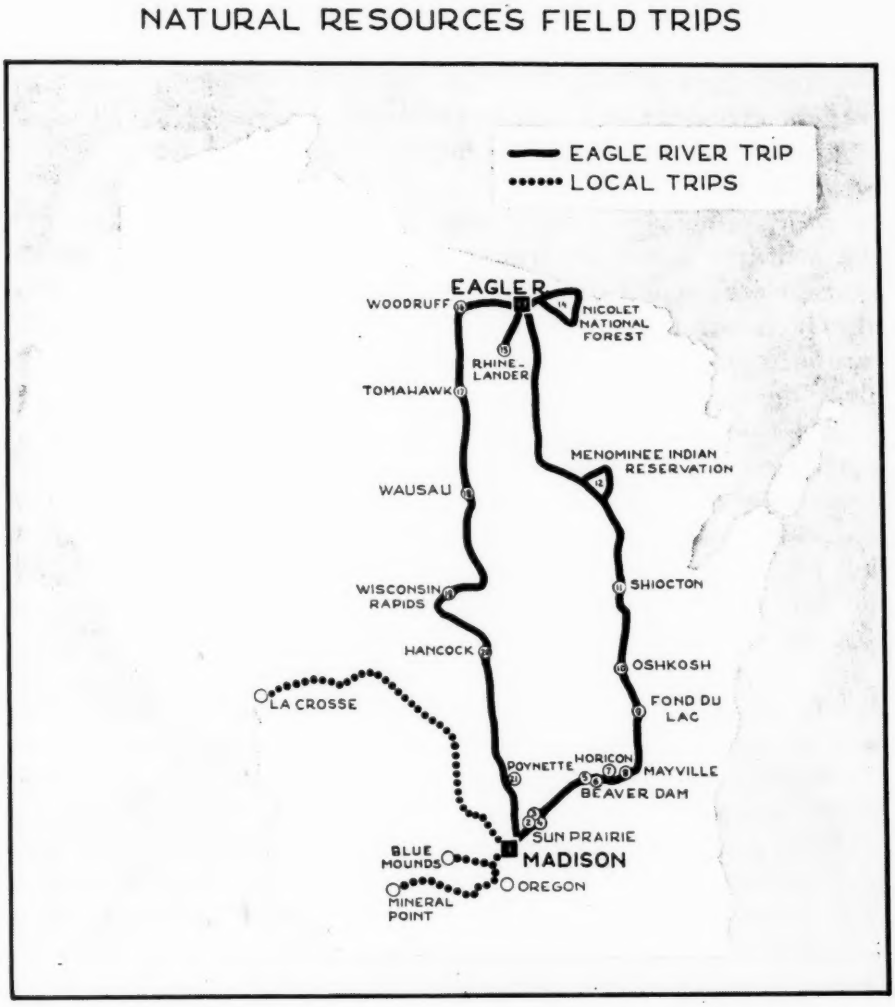


FIG. 1. Numbered stops on the Eagle River trip are as follows: 1) Starting point. 2) Land use on Renck's farm. 3) Soil horizon pit. 4) Muskrat marsh. 5) Powerplant at Beaver Dam. 6) Soil fertilization experiment plots. 7) Wildlife refuge. 8) Old mine dumps. 9) Recreational park. 10) Mink farm. 11) Cut-over sand plain. 12) Supervised forestry. 13) Eighty acre demonstration forest. 14) National forest tour. 15) Pulp and paper mill. 16) Muskie hatchery. 17) State fire headquarters. 18) State Park. 19) State forest nursery. 20) Agricultural experiment station (wind erosion). 21) State game farm.

ing of several trips taken by students of conservation at the University of Wisconsin, but it is also the most effective in presenting a general overview of the state's resource problems. Those who cannot spare three consecutive days and twelve dollars to cover the costs of transportation, meals, and lodging are required to take a number of shorter trips that collectively accomplish about the same results.

At a preliminary meeting students are briefed on the itinerary, the principal stops, the transportation arrangements and appropriate clothing and equipment for the trip. Students are given a library research assignment which involves the preparation of a carefully written, loose-leaf description of each scheduled stop along the itinerary.

The route of the Eagle River trip is shown by Figure 1 and the general nature of each numbered stop is indicated in the caption beneath the map. In three days the student group travels approximately 530 miles and encounters a variety of problems, techniques, and ideologies concerning the conservation of soils, forests, fish, wildlife, minerals, water and power, recreational resources and regional developments dependent upon those resources.

A post-trip meeting is devoted to the analysis of situations encountered on the trip. Every effort is made to discuss all aspects of each situation, including the divergent viewpoints of people interviewed, and to encourage students to reach independent conclusions which they can logically defend.

Field areas nearer Madison are used for shorter trips by those who cannot go to Eagle River. The shorter trips have the advantage of presenting only a single resource field at a time, but they use a larger proportion of student time in travel because round trips from the campus are necessary for each stop. Shorter trips include:

1. The Oregon Fish Hatchery (trout).
2. Blue Mounds Mink farms and caverns.
3. Mineral Point (old lead and zinc mines plus soil care in driftless area).
4. La Crosse Soils Experiment Station (Grandad Bluff).
5. The Forest Products Laboratory on campus (wood conservation).
6. The Poynette Game Farm (stop 21 on Eagle River trip).

A helpful check on field trip results and student development may be made by setting up examination questions in groups and sub-

groups as illustrated by the following multiple-choice answer sheet. Questions on the Eagle River trip might be placed in 20 groups to correspond with the 20 major stops, or into 8 groups that correspond to the different types of resources studied. A tabulation of scores by those numbered (Roman numerals) groups would reveal at once the stops or resource types that were less effectively presented on the trip.

EXAMPLE SCORE SHEET

I. Forests.

A. facts	B. observation	C. comprehension	D. generalization
a b c d	a b c d	a b c d	a b c d
1. 0 0 0 0	5. 0 0 0 0	9. 0 0 0 0	13. 0 0 0 0
2. 0 0 0 0	6. 0 0 0 0	10. 0 0 0 0	14. 0 0 0 0
3. 0 0 0 0	7. 0 0 0 0	11. 0 0 0 0	15. 0 0 0 0
4. 0 0 0 0	8. 0 0 0 0	12. 0 0 0 0	16. 0 0 0 0

II. Soils.

A. facts	B. observation	C. comprehension	D. generalization
a b c d	a b c d	a b c d	a b c d
17. 0 0 0 0	21. 0 0 0 0	25. 0 0 0 0	29. 0 0 0 0
18. 0 0 0 0	22. 0 0 0 0	26. 0 0 0 0	30. 0 0 0 0
19. 0 0 0 0	23. 0 0 0 0	27. 0 0 0 0	31. 0 0 0 0
20. 0 0 0 0	24. 0 0 0 0	28. 0 0 0 0	32. 0 0 0 0

III. Fish.

etc.

A tabulation of vertical columns A, B, C, and D might serve to indicate that a particular student knows many facts, observes and remembers details, comprehends conflicting viewpoints gathered from interviews, but consistently fails to make valid generalizations from the information available to him. Analysis of the vertical columns on a class, rather than an individual basis, may reveal that the field trips have been stressing facts too much and principles too little, or vice-versa. In any case there is much good to be said for post-trip examinations in helping students organize their work, and teachers to organize their trips to make the best possible use of field areas in teaching conservation.

A JOURNEY THRU LAPLAND IN FINLAND AND NORWAY

ISABEL FOYE
Battles School, Girard, Pennsylvania

For a geography teacher, a trip into the Land of the "Midnight Sun" in Finland, a visit in the home of a Lapp family, a swim in the Arctic Ocean, a taste of whale meat—you name it. For me it was a dream that came true.

Just a bit of the why and how and when before I tell you about the where.

As the result of a correspondence friendship which began with a gift subscription to the Finnish edition of *Reader's Digest,* I was invited to spend the summer of 1948 in Finland. The delighted receivers of that magazine asked me to be their guest and to serve as godmother for a baby to whom they gave my name. I flew via Scandinavian Airlines. The trip was uneventful—not even thrilling. Just as we left the coast of Scotland and flew over the North Sea we traveled thru a thunderstorm that rocked our DC 4 a bit. But flying at more than 250 miles an hour, a plane doesn't stay in a storm long. Not a minute was lost in that twenty-four hours of flying time from New York to Helsinki.

My friends proved to be, as I had expected, some of the finest folks on earth. Finns have a reputation, you know, for fine character, honor, patriotism, and stubborness. They are the "Statue of Liberty" in Europe, paying war debts to Russia as honestly as they paid us, working and voting desperately and consistently to keep their hard-won freedom.

The home which I visited is in Middle Finland in the beautiful lake country. Ours was the last house out from town on our woodsy road. The lake was at our front door, serving as chief means of transportation, source of fish for food, wash tub, and bath tub. The soap shortage does not mean that the Finns are unclean. With sauna,[1] soap is a luxury, not a necessity. The Finnish sauna deserves a story by itself.

Northward

With my hostess, an architect, and a group of seventeen women

[1] Sauna is the Finnish steam bath, to which the Finns give much credit for their health and strength.

architects from Helsinki, I went into North Finland and Norway. They were studying as they traveled, seeing at first hand the awful destruction caused by the retreating Germans, visiting towns which were partly reconstructed, talking with the architects who were in charge of town planning, and all types of building. From the Arctic Circle north, every town was destroyed, every bridge blown up, every farm home demolished. I said "every." That is not quite true. Of the 700 bridges in North Finland there were twelve which remained intact. In the home town of my friend's uncle where there had been 222 buildings, four were standing when the Germans left. As farm people build a new house, they build beside the ruins of the former home, leaving the old fireplace and chimney as "Hitler's Monuments." This business of destruction is very scientific and very devilish.

At Rovaniemi on the Arctic Circle the railroad came to an end and we transferred to a bus which was ours for eight days. As we drove up to the new hotel in that town where we had reservations for the night, I was thrilled to see the American flag flying beside the Finnish flag—and it was in my honor—because I was the only American in that part of Finland. Rovaniemi had been leveled. Reconstruction is slow because Finland, tho rich in quality of its people, is poor in quantity of resources and the first responsibility of all is to pay that Russian war debt.

We were entertained in the home of the governor of Lapland and he told us many of his war-time experiences. In his greenhouse we saw ripe tomatoes and cucumbers—and this was July 3 at the Arctic Circle. We visited a school, a beautiful modern building. We were entertained in the home of the architect who is in charge of the rebuilding of the city.

Into Reindeer Land

On the morning of July 4 we started our journey into Lapland. The Arctic Circle was marked with a highway sign in Finnish, Swedish, and English under a painting of the "midnight sun." There were many reindeer on the road. At lunch stops we were warned to stay on well-worn paths because there are still many unexploded mines. We carried most of our food with us. It is a rare eating place in Finland that could provide a meal for a bus load of people. "Hitler's Monuments" dotted the landscape. We visited the home of a world's ski champion. One room was full of Olympic

and other medals and prizes. The Finns have been great athletes and will be again when they have proper food. Many times during the long, warm, dusty days we stopped to swim in roadside lakes. A small hotel has been built to replace the destroyed Hotel Pallas, which was really their winter sports palace. We climbed the mountain which provides the ski trails, had a snowball fight (had to go far off the path to find the snow), took pictures of a herd of reindeer, slapped mosquitoes. Mosquitoes in Lapland are healthy! To bed at 11:30—broad day light.

July 5—Breakfast of oatmeal with berry juice, no milk. Coffee —50¢ per cup, no cream, provide own sugar. Imported foods are almost non-existent. First passport inspection as we neared the Norway border. As any congenial bus load in America would do on a long ride, we sang all morning. I learned several lovely melodies—but few words. We passed the heart-breaking battlefields of Kilpisjarvi. Stopped to spend two nights and a day beside Kilpisjarvi (jarvi means lake). Tents provided shelter. We carried our own bedding. Mosquitoes were our constant companions but we outwitted them by liberally covering exposed skin with a smelly liquid which they didn't like. It was really funny to watch many a big hungry mosquito glide in for a landing and change his mind when half an inch away from my hand.

Beautiful Kilpisjarvi lies at the foot of Saana, one of the high points on the Finnish horizon. We climbed Saana and I was glad to find snow in a pocket on the north side in which to cool my feet. After a long climb we found at the top a tin can, a notebook, and a pencil. Eagerly I looked thru the list—but I was not the first American to reach the top. A woman from California beat me to it.

Finland was covered by glaciers and has no real peaks. It is a fairly level plateau country with small lowland areas, marked with many, many lakes and swamps. Because the ground is frozen so much of the year, underground drainage is poor. Fields are long and narrow, cut by drainage ditches. The farm lands all had to be cleared of forest and rock. When the hardy grains and hay are harvested, the shocks are fastened on long poles which have many pointed arms. These keep the hay off the ground while it cures. A horse is almost as expensive as a tractor in Finland. Most of the livestock was killed during the wars. The most important crop is potatoes. Root crops are not so easily hurt by frost. One year recently when South Finland had a very dry summer and

consequently poor crops, the potato crop of Lapland provided the people much farther south with food.

A LAPP HOME

Many Laplanders have turned to farming and its more settled life, but many still prefer the wide open spaces of the tundra and the wandering life of reindeer herders. These nomads, who move on an average of once every three weeks in the summer, are not encumbered with much "stuff." Inside the tent home we visited we saw one wooden chest and piles of skins and furs. In the outdoor kitchen were two iron kettles. A smaller tent was the food storehouse, containing smoked reindeer meat, a little grain, some coffee and substitute, and tea. Dogs are valuable helpers with the reindeer. Children spend much time in the summer picking the tiny Arctic berries which grow on bushes a few inches high. I saw a travelogue in a Finnish theater which showed the life of the Laplanders in winter when they move south to semi-permanent homes on the edge of the forest. Those trees are stunted and crippled but stubbornly they live and grow.

Next day, July 6, we went by boat and on foot to the international boundary monument which marks the spot where Sweden, Norway, and Finland meet. A family who lived near our camp graciously permitted us to use their sauna. As we visited with them we talked about the Lapps, the reindeer, and mosquitoes. The man said that the Lapps thank God for the mosquitoes, because the mosquitoes drive the reindeer in summer to the patches of snow and this makes the round-up for branding so much easier.

INTO NORWAY

July 7—Into Norway and into "foreign" scenery—rugged mountains and beautiful waterfalls, breath-taking roads fastened to the sides of cliffs, fjords, and fishing boats. Into Norway and into a land where chocolate, coffee, jello with whipped cream, lemon slices with meat, and pickles can be bought. Into Norway and into a land hard-hit by war but coming back quickly aided by the cooperation of the western world. Here we saw hay drying on racks on lines as we dry clothing. Battered gun emplacements in the middle of the streets were a common sight. The girl who took us to our hotel room that night said that bright sunlight would stream thru our window until 3:00 A.M., then the people on the

other side of the hall would get it. Land of the "Midnight Sun"? Yes, we were there, but if a traveler is tired enough and the bed comfortable (we slept under feather ticks) midnight suns are neither novelty nor nuisance.

July 8—I watched the tide come and go. In the bottle-neck of the fjord the change in a short time is so noticeable. It was so strange to see water coming in and none going out, and later to see it going and none coming in. The Germans had built miles of snowsheds over mountain roads to make possible the transport of supplies to troops in the interior. In one place to build a twenty-five mile shed they had cut every pine tree in that valley. As they retreated, the Germans burned this "bridge" behind them. We picked up souvenir nails and spikes. Saw a new Ford tractor, but there are few farms in Northern Norway large enough on one level for even parking space for a tractor. Buildings had sod and stone roofs—no nails needed. Every house had a balcony from which the bedding was aired every day. Passed several peat bogs where men were working, cutting peat like bricks and stacking it to dry. Met an American reconstruction architect in Alta. She voiced my conviction, that there was nothing artificial in the kindness and friendliness of the Finns and Norwegians.

July 9—Hammerfest, northernmost city in the world, is a famous fishing port up around the bend of Norway. The port is open the year round due to the Warm Gulf Stream Drift. There I saw what may be the world's smallest garden. Hammerfest is fastened to the rocky hillsides and to go from one street to another we climbed steps. This garden was in steps too. At the bottom, with soil held in place by a board, were two potato plants. On the next step, with soil held in the same way, were two tomato plants. Then several small flowers, again two tomatoes, and at the top two more potatoes. I had heard that in Norway a child learning to walk is tied to something solid with a short leash so that he cannot fall off the farm. I believe it now. In Hammerfest I ate a whale sandwich. As a taste it was O.K., but as steady diet—no, thanks! It seemed like a very oily beef. There too I ate reindeer meat. It had been smoked and had a strong gamey venison taste. Fish were drying on racks near the little home of every fisherman.

A Swim in the Arctic

July 10—The great event of this day was a swim in the Arctic Ocean in the Porsanger Fjord. I know it was the ocean because I

swallowed some of it and it was definitely salty. The water was not cold. There were no icebergs or polar bears! The twenty-four hour days during the summer make life possible there.

July 11—Back into Finland at Inari. The bridge over the Inari River was rebuilt by six Finns and two Norwegians. Neither government felt able to finance it but both peoples felt the need of restored transportation. The hotel at Ivalo couldn't take us all so we drove on thru the white night to Rovaniemi. Reaching there in the early morning, we slept on the floor of an upstairs lounge till beds were ready for us. But after a day and a night of riding in a bus which was not a modern Greyhound, on roads which were not super-highways, even a floor looked good to us.

We had traveled more than 1,000 miles, which doesn't sound like much to Americans, but it was a wonderful eye-opener and heart-opener for me. My friend and I left the group there and went to visit her parents before we returned home.

Eventually that day, marked on my return ticket, came. Two months of my life and a large part of my heart are in Finland. Friendship is the greatest thing in the world.

SOIL DESTRUCTION OR TREE CROPS IN THE TROPICAL FORESTS

J. Russell Smith
Swarthmore, Pennsylvania

The enormous growth and density of the tropical forest in the rain belt near the Equator, stands in the minds of millions as the highest type of rank luxuriance, but it is erroneous to assume that this luxuriance signifies great fertility. The tropical forest grows with great speed, reaches great height, produces a vast quantity of vegetation, but often the forest rests upon a base of laterite,—namely soils high in aluminum or iron and very low in fertility. In some places the soil has so much of one of these metals that we shovel it up as ore. The elements of fertility are soluble and have been bleached out by rain and the continuous heat, but on top of this sterility stands the forest. There is a certain resemblance here to a glass case (wardian case) the botanist puts in a window to make a little torrid zone where he can keep plants. He puts some earth and some water in the case of glass—adds a few plants, and seals the

case. There are records of these forest worlds having lived for fifty years in this case. The plants drink their little supply of moisture, exhale it, drink it again, as they take up fertility, make leaves, and drop them. The leaves decay and feed the plants;—thus fertility and moisture run round and round the cycle of life and death. The process bears a resemblance to the water in the boilers of an ocean steamer, the same fresh water being used for the boilers over and over again—boiling and condensing; boiling and condensing, hundreds of times as the boat crosses the ocean.

The plants of the tropic forest produce leaves, fruits, stems, and trunk. The trees drop leaves, twigs, fruit, and finally die, rot, become plant food, and are picked up again by the plants and thus rebuild the forest once more. The circuit is complete. There stands the magnificent forest like a giant wardian case, using a small quantity of endlessly circulating fertility, with some continual reenforcement of carbon, oxygen and nitrogen from the air.

Man comes with axe and fire. Man cuts the trees of the forest, burns the wood, sets out a plantation, cultivates the soil. The hot sun destroys the humus and the rain carries fertility away. The plantation fails, the forest is gone now, it cannot replace itself. Coarse grass takes its place. In all continents the equatorial forest is shrinking by this means.

It is estimated that by this process the equatorial forests of Africa are perishing at the rate of half a million acres a year (see William Vogt, "Road to Survival"). The native system is to deaden the trees, plant a patch of garden among the dead trees, use it for a season or two, then move on before the possibility of forest regrowth has disappeared. Thus the forest and the Negro and other tropic denizens have lived together for ages. The white man with his system of forest destruction is the greatest destroyer that ever trod the earth. H. L. Shantz says that soils show that two-thirds of the land where tropic forest has grown is now treeless.

If much of the tropic forest is to be preserved, we must make use of tree crops. Tree crops will safeguard fertility while producing food for man. In most cases there can be an undergrowth of leguminous nurse crops of small tree and bush to catch nitrogen, hold the soil, make humus and feed the crop trees—nuts, oils, fruits, gums, fibers, even choice woods.

There is nothing revolutionary about this idea. Note the chief exports of the tropic forest areas today—rubber, cacao, palm kernels, palm oil, coconuts, cinchona, mango, Brazil nuts, ivory nuts

(tagua, Ecuador), bobassu nuts. There might be a host of other nuts and fruits for export or home consumption if they should receive half the effort that has been given to the apple or orange.

In some cases like the coffee and cacao plantations of today, the nurse tree crop towers above the harvest tree crop furnishing nitrogen and partial shade. Perhaps a fruitful legume might be found for this purpose.

The need is for a realization that the choice is—*tree crops or nothing but coarse grass of almost no value*—Cognales they call such wastes of the tough cogon grass in the Philippines.

GEOGRAPHICAL PUBLICATION

Gertrude Whipple and Preston E. James. **At Home on Our Earth.** 346 pp., maps, photograps, kodachromes, diagrams and study aids. Index. The Macmillan Company, New York 11, New York. List Price $2.96.

This book is the fourth in a series known as the Whipple-James Basal Geographies. The first book in the series, *Our Earth,* and the second book in the series, *Using Our Earth,* appeared in 1947. The third volume, *Living on Our Earth,* was released in 1948. The present book, *At Home on Our Earth,* in the words of the authors "maintains and extends the knowledge of geography developed in the first three books in the series," and "exemplifies the cultural-regional approach to the study of the earth and man's use of it." It is designed for use in the sixth grade.

In the book, *At Home on Our Earth,* the authors treat the United States and the British Commonwealth of Nations, however, fully two-thirds of the text is devoted to the United States. There will, no doubt, be some differences of opinion from some quarters in regard to the allocation of these units at this grade level, as most courses of study include other continental studies in the sixth grade.

The authors speak of a cultural-regional approach to the study and a glance at the Table of Contents indicates that in its larger aspects the political unit has been used.

The text is well illustrated with maps, pictures, kodachromes and diagrams. There are seventy-nine maps in the text, thirty-two of which are colored. Many cover full and double pages. They are well distributed thruout the text; they are simple, readable and functional. One is, however, a bit startled at the legend used for indicating high mountains. Since the child is used to seeing mountains on the map as brown or red-brown will the choice of purple be confusing?

The pictures, three hundred and twenty-two in number, of which thirty-six are kodachromes, are well chosen and illustrate the text excellently. Many are new.

The authors make much of the cultural-regional approach, emphasizing the fact that the earth environment alone does not determine the geographic pattern, but maintain that "inherited cultural patterns, type of civilization, technological knowledge, skill, need, interest and desire" are factors which will have much to contribute to man's use of the earth. Granted. One is led to ask what lies back of those cultural factors? How did they come to exist? In reading the text one is made aware of the part played by the earth factors, but the cultural factors are not so plainly visible.

Ina Cullom Robertson

State Teachers College
Valley City, North Dakota

THE NATIONAL COUNCIL AT WORK

The National Council of Geography Teachers will hold its Thirty-fifth Annual Meeting, Friday and Saturday, November 25th and 26th at Hotel Cleveland in Cleveland, Ohio. Friday morning meetings will be devoted to papers on problems in geography teaching. The first meeting of the Executive Board will be November 24, at 3:00 P.M.

Friday Morning, November 25, General Session
Ball Room

9:00 A.M.

Greetings to the National Council, John Schoff Millis, President of Western Reserve University.

Response, Harry O. Lathrop, Second Vice-President of the National Council of Geography Teachers, Illinois State Normal University.

Overcoming Undesirable Influences of Informal Education, Edith P. Parker, University of Chicago.

World Patterns in High School Geography, Zoe A. Thralls, University of Pittsburgh.

An Evaluation of Geography Teaching at the College, University and Graduate Levels, Lewis F. Thomas, Washington University, St. Louis.

A New Curriculum for High School Geography in Pennsylvania, Mary Viola Phillips, New Kensington, Pennsylvania, High School.

Discussion.

Friday Noon

12:15 P.M.

State Coordinators' Luncheon.

Friday Afternoon
Room to be announced

2:00 P.M. Sectional Meetings

Section 1. Working Together for Common Goals

Chairman: Thomas F. Barton, Indiana University.

Common Goals for Rural Educators and Geographers, C. O. Fitzwater, Assistant Director, Rural Service Department of Rural Education, National Education Association, Washington, D.C.

The Relationship Between the Work of Elementary Science and Geography Teachers, George A. Mallinson, Western Michigan College of Education, Kalamazoo.

The Relation of Geography to Other Social Studies and Physical Sciences in the Cleveland Schools, Clyde F. Varner, Head of the Department of Social Studies, John Marshall High School, Cleveland.

Discussion.

Section 2. Trends in Geographic Visual Aids—The Motion Picture

Chairman: Clyde Kohn, Northwestern University.

Secretary: James Rinier, Kent State University.

Philosophy of the Production of "The Earth and its Peoples," Louis de Rochemont, Clyde Kohn.

Showing of Films, "New England" and "The Eskimo."

Distribution of Films from "The Earth and its Peoples," Edwin McArthur.

Discussion of General Trends in Geographic Motion Pictures, Elizabeth Eiselen, Wellesley College; Minnie Lemaire, Mount Holyoke College.

Section 3. Gamma Theta Upsilon

Chairman: Warren Strain, State Teachers College, Slippery Rock, Pennsylvania.

Secretary: Ina C. Robertson, State Teachers College, Valley City, North Dakota.

Opportunities and Responsibilities for Students of Geography, George Hubbard, Professor Emeritus, Oberlin College, Zeta Chapter.

Suggestions for a Christmas Party for a G.T.U. Chapter, Upsilon Chapter, Bowling Green State University, Ohio.

A Policy for Honorary Members—A Students View, Stanley E. Gaub, Pi Chapter, Wilson College, Washington, D.C.

Discussion and Business Meeting.

4:30 P.M. National Council of Geography Teachers Tea at Western Reserve University.

Sponsored by the Departments of Geography, Kent State University, Oberlin College, and Western Reserve University.

Friday Evening
Ball Room (Dress Optional)

7:00 P.M. Annual Banquet

Announcement of the Winners of the Isaiah Bowman and Cora P. Sletten Prizes.

Presentation of the Distinguished Service Award.

Address: Explorations of the National Geographic Society, Gilbert Grosvenor, President of the National Geographic Society.

Reception for Past Presidents of the National Council.

Saturday Morning, General Session
Ball Room

9:00 A.M.

Confusion in Asia, George B. Cressey, Syracuse University.

The Racial Problem of South Africa, Roderick Peattie, Ohio State University.

Will Holland Meet the Postwar Challenge, Samuel Van Valkenburg, Clark University.

Storm Clouds Over the Andes: The Sierra Indian Begins to See the Light, Langdon White, Stanford University.

Discussion.

Saturday Noon

12:15 P.M. Luncheon.

Saturday Afternoon, General Assembly
Ball Room
(Attendance at this meeting is restricted to members)

2:00 P.M.

Our Thirty-fifth Year, Melvina Svec, State Teachers College, Oswego, New York.

Financial Status of the Council, John H. Garland, University of Illinois.

Geography of Aviation, Richard L. Tuthill, University of Kentucky.

Survey of Research in Geographic Education, Henry J. Warman, Clark University, Worcester, Massachusetts.

Facilitating the Use of Maps, Katheryne T. Whittemore, State Teachers College, Buffalo, New York.

Report of the Publications Committee, Melvina Svec, State Teachers College, Oswego, New York.

New Committees, Earl B. Shaw, State Teachers College, Worcester, Massachusetts.

In Appreciation, Katheryne T. Whittemore, State Teachers College, Buffalo, New York.

A New Administration, Zoe A. Thralls, University of Pittsburgh.
Prospects for 1950, Loyal Durand, University of Tennessee.

Miss Viola M. Bohn of Bismarck, North Dakota, who is working on a thesis on "Tests and Testing in Geography" at Northwestern University, has accepted the chairmanship of the Committee on Tests. The National Council is fortunate that Miss Bohn has agreed to guide the work of this committee.

EARL P. SHAW, *President*

GEOGRAPHICAL PUBLICATION

Darrel Haug Davis. **The Earth and Man. A Human Geography.** 696 pp. Revised Edition, 1948. The Macmillan Company, New York. $5.00.

This is a revision of the college textbook by the same name and author, first published in 1942, and widely used for the beginning course in College Geography. It is a selection and arrangement of material aimed at presenting facts and developing the principles of geography.

Thruout the text the material is well within range of freshman interest and ability, and makes no presumptions that the student may have had previous study in meteorology, physiography, or other basic courses.

After an appropriate introductory chapter on Growth of Geographic Knowledge, there follows Parts II and III devoted to Man's Distribution and Numbers, and Man and Environment, respectively. Taken together these two parts are treated in such a way as to emphasize the fact that modern geography deals with the inter-relation of man and environment.

Parts IV and V, Elements of the Natural Environment, and How Man Obtains a Livelihood, respectively, constitute the main body of the book. In the former, the physical elements and natural conditions of the earth are kept foremost in the theme, while in the latter, man's activities are presented as leads in the discussions. In this manner the factual material is presented and geographic principles are developed. Neither the humanist attitude nor environmentalism is forced upon the students as a viewpoint in the field of geography.

The appendix, making up Part IV, is longer than that found in most textbooks. It consists of fourteen short chapters covering almost 100 pages, approximately referred to as subject matter for the geographer. Earth Relations, Maps, Mathematical Geography, Classification of Climates, Soils, and Land Survey are among the important chapter headings. In all, it would appear that the appendix would assure the student of a sufficient background of earth environment material now too often lacking in other college textbooks for Beginning Geography.

Questions, exercises, and references at the ends of chapters make the book teachable; maps, pictures, and graphs are plentiful and well chosen; thruout the book the author makes no attempt to impress upon the student his own theories, particularly a classification of climates all his own. As stated above, the book is strictly a selection and arrangement of material.

The Earth and Man provides an excellent training for the student who will follow up with later regional studies in geography.

BERT HUDGINS

Wayne University

EDITORIAL NOTES

The University of Pittsburgh was host to the Geography Club of Western Pennsylvania for its Spring Meeting. The program consisted of Exhibits of Students' Work and Teaching Materials; a demonstration and discussion of the use of motion pictures in the classroom entitled "Harvesting Education from Motion Pictures"; and an illustrated lecture entitled "A Visit to Honduras and Guatemala" by Lorene Garloch. Dr. Lawrence Davis, State Teachers College, Indiana, addressed the luncheon meeting. Officers of the Club are: President, Elizabeth Beadling, Penn Township; Vice-President, Frances M. Hansen, University of Pittsburgh; Secretary, Sara Birtz, Versailles Township; and Treasurer, Joseph Sanderson, Aspenwall.

The annual meeting of the New England Geographical Conference was held at Harvard University in May. The morning program, consisting of two talks, called attention to some modern problems in Europe. Gordon Rickard, Assistant Secretary of the Economic Cooperation Administration, spoke on "Geographical Aspects of the European Recovery Program" and E. Estyn Evans of Belfast, Ireland, Visiting Professor of Geography at Bowdoin College, spoke on "Ireland as a Part of Atlantic Europe." The afternoon session consisted of a general discussion on New England's Prospect, 1949. Albert Carlson, geographer from Dartmouth College and Seymour Harris, economist of Harvard University led the discussion.

Dr. Henry Warman, Clark University was a visiting professor at the University of British Columbia during the summer 1949.

Dr. J. Lewis Robinson, University of British Columbia, serving as a Consultant for the British Columbia Government Land Utilization Survey, traveled thruout British Columbia during May and June, 1949.

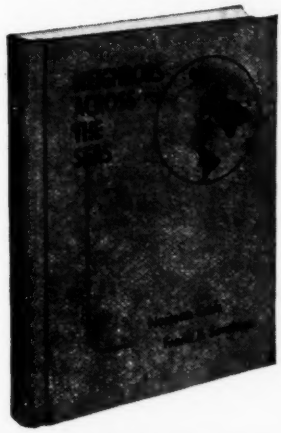
Edward L. Ullman, Harvard University, is the new president of the New England Geographical Society.

Elvyn Stoneman, Indiana University, taught at the University of Missouri during the 1949 Summer Session.

Dr. Arthur Carthew's new position is Chairman of the Earth Science Department, Los Angeles City College.

Coming . . .

JANUARY 1, 1950



NEIGHBORS ACROSS THE SEAS

Sixth Grade Geography in

OUR NEIGHBORS SERIES

By *J. Russell Smith*
Frank E. Sorenson
Norman Carls

Western Europe – British Isles, France, Germany, Smaller Countries
The USSR—A Giant Growing
Eastern Europe—Land of Many Changes
Mediterranean Bound
Middle East
Africa South of the Sahara
Islands of the Pacific
Monsoon Asia
Australia and New Zealand

As of January 1, you will have the geography you have been demanding. The most up-to-date information possible on present world conditions in countries where change is the order of the day. 432 pages. 32-page atlas. Statistical tables.

Write for further information

WINSTON 1010 Arch St. Phila. 7

CONSTRUCTION OF MAP PROJECTIONS

By Hoffmeister. Tells how to make projections such as the Square, Ptolemy's Converging Meridian, Mercator's, the Various Conic and Polyconic, Werner's and others. Elementary instruction given for the proper use of drafting tools, simple and effective printing, balance and weight of lines, etc. Designed to be used in standard semester course. Write for approval copy. $1.00. Clip this.

OUTLINE MAPS

Accurate up-to-date. Based on government surveys, bulletins. Sizes 8" x 10½"; 10½" x 15"; 21" x 32". Send for free catalog of titles and prices.

and

McKNIGHT & McKNIGHT

PUBLISHING COMPANY

Dept. 24, Market & Center Sts. Bloomington, Illinois

EDITORIAL NOTES

The Ohio Council of Geography Teachers held its annual meeting at the Taft School, Lakewood, Ohio in May. In the morning ten elementary and one junior high school teachers demonstrated different audio-visual aids used by pupils in learning geography. The demonstration was under the supervision of Lucille Kenny, director of visual education in the Lakewood schools. This demonstration was followed by a lecture on the Great Lakes Waterway by Tom Ireland. At the noon luncheon Zoe H. Thralls spoke on The Dynamic Nature of Geography. The following 1949-1950 officers were elected: *President,* Lyle R. Fletcher, Bowling Green State University; *Vice-President,* Mrs. Maude Hobson, Youngstown College; and *Secretary-Treasurer,* Miss Lucille Kenny, Public Schools, Lakewood. James Beck, Kent State University, was named as Coordinator for another year.

General George C. Marshall, the Nation's wartime Chief of Staff and later Secretary of State was recently elected to the board of trustees of the National Geographic Society.

EDITORIAL NOTES

Dr. George T. Renner, Teachers College, Columbia University was on the staff of Fresno State College, Fresno, California, during the summer.

Dr. Wallace T. Buckley, Washington State College is chairman of the Geology and Geography Section of the Northwest Scientific Association.

Dr. Alfred H. Meyer, Valparaiso University, was on the Geography staff of the University of Virginia during the summer, 1949.

Dr. Fred Kneffen, Louisiana State University and Dr. Walter Hackler, San Francisco State College taught at the University of California, Berkeley, during the summer 1949.

Dr. John Kesseli, University of California, at Berkeley, was a member of the San Francisco State College during the summer, 1949.

Miss Melvina Svec, State Teachers College, Oswego, New York taught at George Peabody College for Teachers, Nashville, during the 1949 summer session.

CANADIAN WAYS... by Harris-Harris

For fifth grade pupils. Accurate, up-to-date historical data and everyday facts clearly given in this highly interesting story of the people, customs, industries and natural resources of Canada. The valuable information in this book is from first-hand experience in Canada. 105 large illustrations. $1. Write for approval copy. Clip this.

IT HAPPENED IN AUSTRALIA

By Harris-Harris. For fifth grade pupils. Two American children visit Australia and learn of the life, history, geography. $1.00.

IT HAPPENED IN SOUTH AFRICA

By Harris-Harris. Sixth grade. Two children visit South Africa and learn of the life in this region. $1.00.

and

McKNIGHT & McKNIGHT

PUBLISHING COMPANY

Dept. 24, Market & Center Sts. Bloomington, Illinois

GEOGRAPHY ATLASES

for all grade levels

H92 DENOYER'S SCHOOL ATLAS
32 pages of colored maps, 40 pages of text and index.
SPECIAL FEATURE is a ten page section dealing with map interpretation.

H82 CARTOCRAFT GEOGRAPHY SCHOOL ATLAS
Over 200 colored maps and diagrams. Deals with virtually every phase of geography.

H52 SOVIET RUSSIA ATLAS
32 pages of colored maps, also notes on geography and resources of the Soviet Union.

H61 NEW REFERENCE ATLAS of the WORLD
160 pages containing colored maps, text, index and Gazetteer.

H56 UNIVERSITY ATLAS of the WORLD
96 pages of colored maps, 16 pages of text and index. Excellent for advanced study.

M.I.T. STRATEGIC AREA MAPS
Twenty 8½" x 11" black-white maps. Shadings and symbols bring out important points.

Base outline maps of all areas including Strategic Area maps are also available.
Send for circulars G8, G9 and G30

DENOYER-GEPPERT COMPANY 5235 Ravenswood Avenue Chicago 40

EDITORIAL NOTES

During the 1949 Summer Session Mr. J. L. Taylor, Stanford University, a specialist in the Far East and Pacific Areas, taught at University of Pittsburgh.

Dr. Andrew H. Clark of Rutgers University conducted a seminar on historical geography with the Goode Geographical Society, State Teachers College, Trenton, New Jersey. Dr. Adelbert K. Botts is sponsor of the society.

Miss Halene Hatcher has resigned as assistant professor of geography, Murray State College, Murray, Kentucky, to serve as Educational Specialist for Geography and Conservation in the Division of Secondary Education, United States Office of Education. Miss Hatcher welcomes suggestions concerning "the types of service projects you think would be most worthwhile in implementing more effective programs for geographic training in the secondary schools."

The Geography Club of Southeastern Pennsylvania originated two years ago following a workshop held at the State Teachers College, West Chester, under the direction of Harriet Elliott. Mr. William J. Wunsche, Public Relations Director of the organization, reports that excellent progress has been made in the introduction of geography courses in the Senior High School curriculums of their district. This organization held its second annual meeting late last spring at State Teachers College, West Chester, Pennsylvania. Its program consisted of a lecture by Professor J. Russell Smith entitled "The Structure of the Geography Class Hour" and of a panel discussion on "Should Geography be Taught as a Separate Subject or as Part of an Integrated Course?"

Geography In the High School

This new volume, in the Geographic Education Series, was prepared by a committee of the National Council of Geography Teachers, of which Dr. Zoe Thralls, University of Pittsburgh, was chairman. It is the only available book devoted entirely to geography at the level of the secondary school. With the increasing interest in the inclusion of courses in geography, teachers of junior-senior high school geography and social studies will find useful materials in this compilation of more than sixty contributions by teachers who are directly interested in teaching geography in the high school.

The organization of the content is suggestive of some of the areas of subject matter suitable for secondary levels. The material is grouped under eight major headings: Nature and Value of Geography in the High School; General Techniques; Economic Geography; Global or World Geography; Political Geography; Teaching Conservation in the High School; Meteorology; Geography and the Local Community.

To those working in areas of curriculum development, supervision, and administration, *Geography in the High School* offers patterns for planning and practical solutions to some of the problems of selection of content. The volume presents points of view and shows how goals can be accomplished.

Teachers-in-training, students in workshops and seminars, classes in secondary education in geography and social studies, will find source material in this book, the sixth in a series of volumes in the Geographic Education Series.

Every teacher should have copies of these volumes. We are pleased to be able to make a special offer. *All who accept this offer,* may secure copies at the special reduced price. Cash in full, including membership dues, must accompany your order. *We cannot send these volumes to you separate from the* JOURNAL, except at the regular retail price. The full amount *must* be in the order—no exceptions. If you are now a member and receive the JOURNAL, simply renew your membership for another year and take advantage of the special price.

SPECIAL OFFER

Make your own combination of the JOURNAL and any book or books.

You get membership in the N.C.G.T., the JOURNAL for a year, and as many volumes as you wish at the special price.

	List Price		Special Price
MEMBERSHIP and JOURNAL OF GEOGRAPHY			$3.00
Geography in the High School	($3.50)	Add only	3.00
Activities in Geography	($0.96)	Add only	0.80
Geography: How To Teach It	($1.60)	Add only	1.30
Human Geography Studies: The United States	($2.00)	Add only	1.60
Life in Asia	($2.40)	Add only	1.90
Map Reading	($0.60)	Add only	0.50

Every teacher of geography and every person interested in education should take advantage of this liberal offer. The National Council extends to you an invitation to become a member and avail yourself of this opportunity. Send your orders directly to

THE JOURNAL OF GEOGRAPHY
3333 Elston Ave., CHICAGO 18, ILL.

Tell Advertisers You Saw It in the JOURNAL